

UNITED STATES PATENT APPLICATION

FOR

**GAMING DEVICE INCLUDING AWARDS THAT GENERATE
ANOTHER AWARD**

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BACKGROUND OF THE INVENTION

Known games of gaming devices provide a player with one or more opportunities to select masked bonus awards from a pattern or group of masked awards displayed to the player. When the player
5 selects a masked award, the player receives the value of the award, and the game enables the player to select another masked award. The player selects another masked award and the process continues until the player selects a masked terminator. European Patent Application No. EP 0 945 837 A2 filed on March 18, 1999 and assigned on its face
10 to WMS Gaming, Inc. discloses a bonus scheme of this type.

That application discloses the possible outcome of a player's selection being either an award or a bonus terminator. Players desire variety in a gaming event. One way to provide variety is to vary the type of outcome that a player can receive. It is therefore desirable to
15 provide a game that varies the possible outcomes of a gaming event beyond a win outcome or a lose outcome.

SUMMARY OF THE INVENTION

The present invention provides a gaming device and specifically
20 a bonus round of a gaming device which includes one or more selections or selectable choices. The processor of the game accesses an award database and generates an award for each chosen selection. Certain awards in the database include a value or pecuniary gain outcome such as a gaming device credit or a game multiplier. One or
25 more awards in the database are supplementing awards which include

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a pecuniary gain outcome and an additional award generation outcome. The supplementing awards may be associated with one or more of the selections or selectable choices.

5 Upon the receipt of a supplementing award, the present invention generates another award. The generated award can, in turn, be a regular award such as gaming device credit or a game multiplier, or another supplementing award. The game continues in this manner until a player does not generate a supplementing award. The game can alternatively have a set limit on the number of sequential
10 supplementing awards allowed. For instance, the game can include only one supplementing award in a database and only enable the awards to be randomly generated a single time.

The present invention includes a game having a plurality of the above described award databases, wherein each particular database is
15 associated with one or more player selectable selections. The present invention includes known input devices, such as one or more electro-mechanical pushbuttons or a touch screen display device. The present invention preferably includes a display device that can provide audio-visual sequences as the game enables the player to input choices,
20 while the game generates an award and while the game provides the player with the award.

It is therefore an advantage of the present invention to provide a gaming device having at least one player selectable selection and at least one associated award database, wherein one or more awards in
25 the database generates another award.

Other objects, features and advantages of the invention will be apparent from the following detailed disclosure, taken in conjunction with the accompanying sheets of drawings, wherein like numerals refer to like parts, elements, components, steps and processes.

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BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1A is a front-side perspective view of one embodiment of the gaming device of the present invention;

Fig. 1B is a front-side perspective view of another embodiment of the gaming device of the present invention;

Fig. 2 is a schematic block diagram of the electronic configuration of one embodiment of the gaming device of the present invention;

Fig. 3 is an enlarged front plan view of a display device including a player selectable selection, which is an area of a touch screen display;

Fig. 4 is an enlarged front plan view of a display device including a plurality of player selectable selections, which are each areas of a touch screen display;

Fig. 5 is a schematic view of a portion of a database that includes a plurality of game awards and a supplementing award of the present invention;

Fig. 6 is a schematic view of a portion of a database that includes a plurality of game awards and a plurality of supplementing awards of the present invention;

Fig. 7 is a schematic view of a portion of a database that includes a plurality of game awards and a plurality of supplementing awards of the present invention, wherein the awards are weighted;

Figs. 8A and 8B are schematic views of a portion of two
5 databases each having a supplementing award, wherein the present invention employs both databases in a single game;

Figs. 9A through 9D are schematic views of portions of four databases each having a supplementing award, wherein the present invention employs the four databases in a single game; and

10 Fig. 10 is a flow diagram of one method of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

15 Gaming Device and Electronics

Referring now to the drawings, two embodiments of the gaming device of the present invention are illustrated in Figs. 1A and 1B as gaming device 10a and gaming device 10b, respectively. Gaming device 10a and/or gaming device 10b are generally referred to herein
20 as gaming device 10. Gaming device 10 is preferably a slot machine having the controls, displays and features of a conventional slot machine. It is constructed so that a player can operate it while standing or sitting, and gaming device 10 is preferably mounted on a console.

It should be appreciated that gaming device 10 can be constructed as a pub-style table-top game (not shown) which a player can operate preferably while sitting. Furthermore, gaming device 10 can be constructed with varying cabinet and display designs, as illustrated by the designs shown in Figs. 1A and 1B. Gaming device 10 can also be implemented as a program code stored in a detachable cartridge for operating a hand-held video game device. Also, gaming device 10 can be implemented as a program code stored on a disk or other memory device which a player can use in a desktop or laptop personal computer or other computerized platform.

Gaming device 10 can incorporate any primary game such as slot, poker or keno, any of their bonus triggering events and any of their bonus round games. The symbols and indicia used on and in gaming device 10 may be in mechanical, electrical or video form.

As illustrated in Figs. 1A and 1B, gaming device 10 includes a coin slot 12 and bill acceptor 14 where the player inserts money, coins or tokens. The player can place coins in the coin slot 12 or paper money or a ticket voucher in the bill acceptor 14. Other devices could be used for accepting payment such as readers or validators for credit cards or debit cards. When a player inserts money in gaming device 10, a number of credits corresponding to the amount deposited is shown in a credit display 16. After depositing the appropriate amount of money, a player can begin the game by pulling arm 18 or pushing play button 20. Play button 20 can be any play activator used by the

player, which starts any game or sequence of events in the gaming device.

As shown in Figs. 1A and 1B, gaming device 10 also includes a bet display 22 and a bet one button 24. The player places a bet by pushing the bet one button 24. The player can increase the bet by one credit each time the player pushes the bet one button 24. When the player pushes the bet one button 24, the number of credits shown in the credit display 16 decreases by one, and the number of credits shown in the bet display 22 increases by one.

At any time during the game, a player may "cash out" and thereby receive a number of coins corresponding to the number of remaining credits by pushing a cash out button 26. When the player "cashes out," the player receives the coins in a coin payout tray 28. The gaming device 10 may employ other payout mechanisms such as credit vouchers redeemable by a cashier or electronically recordable cards, which keep track of the player's credits.

Gaming device 10 also includes one or more display devices. The embodiment shown in Fig. 1A includes a central display device 30, and the alternative embodiment shown in Fig. 1B includes a central display device 30 as well as an upper display device 32. Gaming device 10 preferably displays a plurality of reels 34, preferably three to five reels 34 in mechanical or video form at one or more of the display devices. However, it should be appreciated that the display devices can display any visual representation or exhibition, including but not limited to movement of physical objects such as mechanical reels and

wheels, dynamic lighting and video images. A display device can be any viewing surface such as glass, a video monitor or screen, a liquid crystal display or any other static or dynamic display mechanism. If the reels 34 are in video form, the display device for the video reels 34 is preferably a video monitor.

Each reel 34 displays a plurality of indicia such as bells, hearts, fruits, numbers, letters, bars or other images which preferably correspond to a theme associated with the gaming device 10. Furthermore, gaming device 10 preferably includes speakers 36 for making sounds or playing music.

As illustrated in Fig. 2, the general electronic configuration of gaming device 10 preferably includes: a processor 38; a memory device 40 for storing program code or other data; a central display device 30; an upper display device 32; a sound card 42; a plurality of speakers 36; and one or more input devices 44. The processor 38 is preferably a microprocessor or microcontroller-based platform which is capable of displaying images, symbols and other indicia such as images of people, characters, places, things and faces of cards. The memory device 40 can include random access memory (RAM) 46 for storing event data or other data generated or used during a particular game. The memory device 40 can also include read only memory (ROM) 48 for storing program code which controls the gaming device 10 so that it plays a particular game in accordance with applicable game rules and pay tables.

As illustrated in Fig. 2, the player preferably uses the input devices 44, such as pull arm 18, play button 20, the bet one button 24 and the cash out button 26 to input signals into gaming device 10. In certain instances it is preferable to use a touch screen 50 and an associated touch screen controller 52 instead of a conventional video monitor display device. Touch screen 50 and touch screen controller 52 are connected to a video controller 54 and processor 38. A player can make decisions and input signals into the gaming device 10 by touching touch screen 50 at the appropriate places. As further illustrated in Fig. 2, the processor 38 can be connected to coin slot 12 or bill acceptor 14. The processor 38 can be programmed to require a player to deposit a certain amount of money in order to start the game.

It should be appreciated that although a processor 38 and memory device 40 are preferable implementations of the present invention, the present invention can also be implemented using one or more application-specific integrated circuits (ASIC's) or other hard-wired devices, or using mechanical devices (collectively referred to herein as a "processor"). Furthermore, although the processor 38 and memory device 40 preferably reside on each gaming device 10 unit, it is possible to provide some or all of their functions at a central location such as a network server for communication to a playing station such as over a local area network (LAN), wide area network (WAN), Internet connection, microwave link, and the like. The processor 38 and memory device 40 is generally referred to herein as the "computer" or the "controller."

With reference to Figs. 1A, 1B and 2, to operate the gaming device 10 in one embodiment the player must insert the appropriate amount of money or tokens at coin slot 12 or bill acceptor 14 and then pull the arm 18 or push the play button 20. The reels 34 will then begin to spin. Eventually, the reels 34 will come to a stop. As long as the player has credits remaining, the player can spin the reels 34 again. Depending upon where the reels 34 stop, the player may or may not win additional credits.

In addition to winning credits in this manner, preferably gaming device 10 also gives players the opportunity to win credits in a bonus round. This type of gaming device 10 will include a program which will automatically begin a bonus round when the player has achieved a qualifying condition in the game. This qualifying condition can be a particular arrangement of indicia on a display device. The gaming device 10 preferably uses a video-based central display device 30 to enable the player to play the bonus round. Preferably, the qualifying condition is a predetermined combination of indicia appearing on a plurality of reels 34. As illustrated in the five reel slot game shown in Figs. 1A and 1B, the qualifying condition could be the number seven appearing on three adjacent reels 34 along a payline 56. It should be appreciated that the present invention can include one or more paylines, such as payline 56, wherein the paylines can be horizontal, diagonal or any combination thereof.

The present invention includes a plurality of different playing screens and a plurality of differently configured databases. The

present invention also includes a method by which a game generates and employs a supplementing award.

Referring now to Fig. 3, a display device 30 or 32 includes a single player selectable choice or selection 102. In this embodiment, the choice or selection 102 is preferably an area of a touch screen display adapted such that when the game enables an input to be made to the processor 38 (Fig. 2), a player may touch the selection 102 and thereby send a discrete input to the processor 38. The game may not always enable the input, such that when the input is not enabled and the player selects the selection 102, the game does not send an input. The game enables the input at the appropriate time of a sequence, as described below.

The choice 102 preferably includes indicia, here the letter "A", which designates the selection. The selection 102 and its accompanying indicia can alternatively be an electro-mechanical input device, similar to the play button 20, the bet one button 24 and the cash out button 26 of Figs. 1A and 1B. An electro-mechanical form of the selection 102 displays its identifying indicia in any suitable manner, such as illuminating the choice.

Referring now to Fig. 4, the display device 30 or 32 includes a plurality of player selectable selections 106, 108, 110 and 112. In this embodiment 104, the selections are again preferably areas of a touch screen display adapted such that when the game enables the inputs to the processor 38 of Fig. 2, a player may touch one or more of the selections 106, 108, 110 and 112 and thereby send one or more

discrete inputs to the processor 38. In one embodiment of the present invention, the game only enables the player to input one selection of the selections 106, 108, 110 and 112. In another embodiment, the game enables a plurality of inputs such as two of the selections 106,
5 108, 110 and 112.

The selections preferably each include identifying indicia, here the letters "B," "C," "D" and "E," respectively. The selections 106 through 112 and their accompanying indicia may alternatively be separate electro-mechanical input devices as described above.

10 Referring now to Fig. 5, the database 114 includes a plurality of awards 116 and at least one supplementing award 118. The database 114 is preferably stored in the memory device 40 and is accessible by the processor 38 (Fig. 2). In one embodiment, the processor 38 accesses entries from a database, such as database 114, in the order
15 in which the entries are placed. In Fig. 5, the processor of this embodiment accesses the "20" award first, the "30" award second, the "4" award third, etc. In this embodiment, the selections are predetermined based upon their order.

In a preferred embodiment, the processor 38 randomly
20 generates an entry from the database 114 such that there is no predictable order. In one configuration of this embodiment, the processor is preset to pick any entry upon a random generation. In another configuration, the processor is preset to pick only previously unselected entries upon a random generation.

The awards 116 include any suitably providable item of value to a player, such as gaming device credits. The awards 116 are alternatively modifiers or multipliers. In one embodiment, the multipliers multiply a tally of credits, such as the amount of a player's total bet, bet per payline, total win, win per payline, or a win from a bonus round game. The awards 116 may include any number representing a pecuniary value, such as a number of picks from a prize pool, wherein the prize pool includes values such as gaming device credits. The awards 116 may be adapted to provide one or more free games. The free game or games include free base games or free bonus games.

The supplementing awards 118 include an award 116, as described above, plus an additional award generation. For instance, the supplementing award 118 of Fig. 5 includes the award 116 of ten game credits and an additional award generation, whereby the game generates (preferably randomly) another award 116 or another supplementing award 118. The supplementing awards are alternatively linked or fixed to another award, such that upon a generation of a supplementing award, the game automatically provides an additional predetermined award. The present invention preferably randomly generates an award or automatically links to an award from the same database that produces the supplementing award 118. The processor 38 alternatively generates awards from a second database upon generating a supplementing award 118 from a first database.

The present invention contemplates a random additional award generation or a predetermined link having a plurality of effects or outcomes. In a first effect or outcome, the game generates or links to the additional award and provides the award to the player without
5 player interaction or player input. For example, referring to Fig. 4, if the player selects the "B" selection 106, which has been randomly assigned a supplementing award, the game provides the award 116 associated with the supplementing award and randomly selects or is automatically linked to another award, e.g., the award associated with
10 the "C" choice 108, and provides the "C" choice award to the player. That is, the game provides the award 116 or supplementing award 118 associated with another choice. In an embodiment, the game only picks an award 116 or supplementing award 118 associated with an unselected choice. The game preferably informs the player of the
15 supplementing award, to increase enjoyment and excitement, by visually and/or audibly displaying that the player wins the award associated with the "C" selection 108.

In an alternative effect or outcome, the random additional award generation or the predetermined link includes providing the player with
20 an extra pick or selection, whereby the pick or selection designates the additional award that the game provides the player. For example, referring to Fig. 4, if the player selects the "B" selection 106, which has been randomly assigned a supplementing award, the game provides the award 116 associated with the supplementing award and provides
25 the player, via a suitable prompt, with another selection or pick. The

game preferably visually and/or audibly prompts the player to make the supplementing or additional selection. The present invention includes enabling the player to select any displayed choice even previously selected ones. The game alternatively links to a predetermined selection, whereby the player executes or picks the selection. The game further alternatively restricts the player to select any previously unselected selection. If the player's extra pick is the "C" selection 108, the game provides the associated "C" award to the player.

In an embodiment having multiple player selections, wherein any selection can yield a supplementing award, the present invention contemplates providing the supplementing award at a plurality of different stages of the game. For example, referring to Fig. 4, if the player is allowed to pick any two selections, whereafter the game reveals awards of the selections, the present invention reveals the game awards of all the picked selections before revealing the supplementing awards. The present invention alternatively reveals the supplementing choice directly after revealing the game award associated with the supplementing award.

The game may be adapted to provide a separate display for the supplementing awards 118. In an embodiment, the game provides an electromechanical display (not illustrated) separate and distinct from the display devices 30 and 32. In an alternative embodiment, one of the display devices 30 or 32 provides a separate and distinct area for displaying the supplementing awards 118.

may be adapted to additionally generate other supplementing awards and be subject to a supplementing award limit as discussed above.

Referring now to Fig. 7, a schematic view of a database 122 illustrates that in an embodiment wherein the game randomly generates awards 116 and supplementing awards 118, the present invention alternatively weights the awards 116 and supplementing awards 118, such that the game is more likely to choose one database entry more often than at least one other database entry. The database 122 includes a column 126 having a probability 128 for each award 116 and supplementing award 118, which designates the likelihood of generating an entry. In the database 122, the game is more likely to select an award 116 than a supplementing award 118 based on the percentages. The present invention includes any probability distribution, wherein the percentages preferably add to 100 percent. It should be appreciated that although the supplementing awards 118 are randomly generated, the present invention includes randomly generating or linking to a predetermined supplementing award.

Referring now to Figs. 8A and 8B, schematic views of two databases 130 and 132 having a supplementing award 118 and plurality of awards 116 illustrate an embodiment, wherein the present invention employs both databases in a single game. In a game having a plurality of player selectable selections, such as the embodiment 104 of Fig. 4, which includes the selections 106, 108, 110 and 112, the processor, upon an input accesses one or alternatively more than one database. For example, in one configuration the processor is adapted

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The game enables the player to input one or more picks and suitably prompts the player, as indicated by the block 156. The prompt is audio, visual or audiovisual and preferably directs the player to pick one or more enabled selections. The game continuously enables the

5 input(s) and continuously prompts the player until the player picks the enabled number of selections.

Upon picking one or more selection, as indicated by a positive outcome of the diamond 158, the processor 38 receives the input(s) associated with the selection(s), as indicated by the block 160. The

10 processor 38 generates an award 116 and displays a preferably enjoyable and exciting, theme consistent award sequence, as indicated by the block 162. The game provides any generated pecuniary award 116 and associated display sequence to the player, as indicated by the block 164.

15 If the processor generates a supplementing award, the game determines if a supplementing award limit has been triggered, as indicated by the diamond 168. If a supplementing award limit has not been triggered, the game generates, i.e., randomly generates or is automatically linked to, another award, as indicated by the block 162.

20 If the game does not generate a supplementing award or generates a supplementing award but has triggered a supplementing award limit, the game ends the sequence as indicated by the oval 170. It should be appreciated that the present invention includes generating, i.e., randomly generating or automatically linking to, additional

